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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/309,155 | 05/10/1999 | MATTHEW ZAVRACKY | KPN97-04A5 | 7157 |
| 21005 | 7590 | 07/14/2004 | EXAMINER | |
| HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133 | | | WU, XIAO MIN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2674 | 27 |
| DATE MAILED: 07/14/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/309,155

Applicant(s)

ZAVRACKY ET AL.

Examiner

XIAO M. WU

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14,16 and 17 is/are allowed.
- 6) ☒ Claim(s) 1-13,15 and 18-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-7, 12, 13, 15, 19-23, 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al (US Patent No. 5,337,068) in view of Lim (US Patent No. 5,300,976).

As to claims 1, 12-13, 19-23, 29-33, Stewart discloses a method of displaying an image comprising the steps of: providing a matrix liquid crystal display; writing an image to the display; clearing the image from the display; flashing a light source; and repeating the steps of writing; clearing and flashing to producing a second image (see Fig. 6). It is noted that Stewart does not specifically disclose the matrix liquid crystal display having array of at least 75,000 pixel electrodes and an active area of less than 20 mm². However, it is well known in the art that

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the LCD display can be made in very small size such as a view finder as taught by Lim. As shown in Figs. 2a, and 2b, Lim discloses a LCD display device 5a in combination with a light source 5e used in a view finder similar to applicant invention. Therefore, it would have been obvious to one of ordinary skill in the art to have modified Stewart's LCD into a very small display (e.g. view finder) as taught by Lim because the active matrix LCD is controlled by a TFT switch which is build on a substrate and the pixel can be made in a very small size.

As to claim 2, Stewart discloses the steps of allowing the liquid crystal image to rotate towards an equilibrium prior to flashing the light source (column 11, line 57 to column 12, line 2).

As to claim 3, Stewart discloses the flashing of the light source ends before the writing of the next image (see Fig. 6).

As to claim 4, Stewart discloses the flashing of the light source continuous for a specific time period of the writing of the next image (Fig. 6).

As to claim 5, Stewart discloses the liquid crystal display is an active matrix LCD having a plurality of pixel electrodes, counter electrode and an interposed liquid crystal (see Fig. 2b).

As to claims 6 and 7, Stewart discloses the step of clearing the image from the display comprising the step of initializing the pixel electrodes to a set voltage (Fig. 6).

As to claim 15, Stewart does not specifically discloses the flashing rate is 165 subframes per second. However, it would have been obvious to one of ordinary skill in the art to have designed a suitable range of the flashing rate in order to avoid a flickering.

4. Claims 8-11, 18, 24-28 and 34-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al (US Patent No. 5,337,068) in view of Lim (US Patent No.

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5,300,976) as applied to claims 1-7, 12, 13, 15, 19-23, 29-33 above, and further in view of Verhulst (US Patent No. 5,627,560).

As to claims 8-11, 18, 24-28 and 34-42, note the discussion of Stewart and Lim above. Stewart and Lim do not specifically disclose switching the applied voltage to the counter electrode panel after every subframe. However, it is well known in the art to switch the applied voltage to the counter electrode panel after every frame. As shown in Fig. 5, a reset signal is applied to the counter prior for clearing the image prior to the selection of the display lines. It would have been obvious to one of ordinary skill in the art to have modified Stewart and Lim with features of the AC driving as taught by Verhulst because the blanking signal is now presented via another drive circuit than the data signal, lower voltages can be used in these drive circuits than in the case where both signals are presented via the same path. Consequently, simpler and lower cost circuits are sufficient, while they have also a lower energy consumption (col. 2, lines 6-12 of Verhulst).

Allowable Subject Matter

5. Claims 14, 16 and 17 are allowed.

Response to Arguments

6. Applicant's arguments filed 4/23/2004 have been fully considered but they are not persuasive. Applicant argues that there is no motivation to combine the teachings of Stewart and Lim because Lim merely mentions the existing LCD technology and does not supplement Stewart in any way with respect to displaying an image on the LCD display. This argument is not persuasive because both of Stewart and Lim are directed to the same type of display device such as LCD display. Lim supports the fact that the LCD display in combination with a light

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source can be made in a small size such as a view finder for a camera. Thus, it would have been obvious to one of ordinary skill in the art to have modified Stewart's LCD display device in a similar size as taught by Lim. Although both Stewart and Lim do not teach exact number of pixel electrodes in the display, the number of the pixels of the display is considered as an obvious design choice since it depends what resolution is desired for a particular size of the display. It is believed that the claimed structures are still met by the prior art references.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiao Wu whose telephone number is (703) 305-4721.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:


(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington.
VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377

xw

July 8, 2004


XIAO WU
PRIMARY EXAMINER
ART UNIT 2674